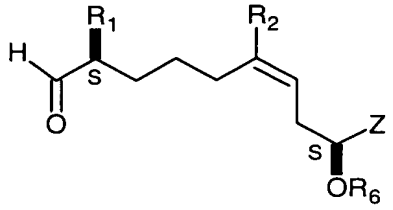
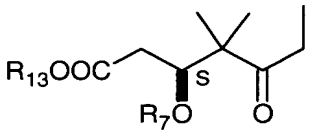
In the claims:

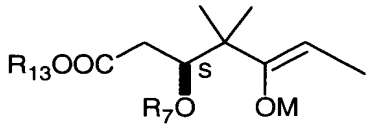
1. (Currently Amended) A method for use in producing epothilones and analogs and derivatives thereof, comprising:

(a) performing an aldol condensation of a first compound ~~selected from the formulas:~~ of the formula:

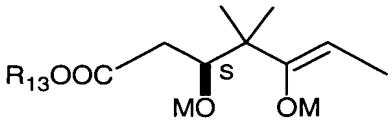


and stereoisomers thereof, with a second compound selected from the formulas:

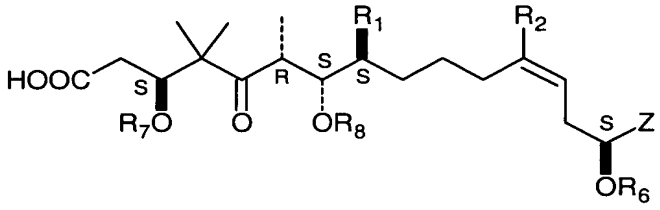




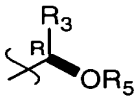
and



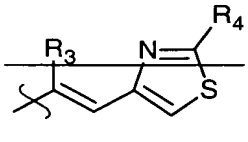
and stereoisomers thereof, thereby to form a third compound ~~selected from the formulas:~~ of the formula:



and stereoisomers thereof, wherein Z is ~~selected from~~

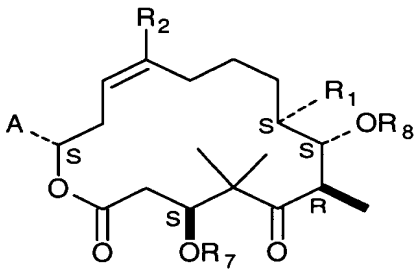


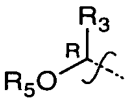
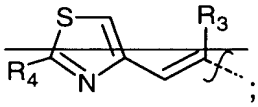
~~and~~



; wherein R_1, R_2, and R_3 ~~and R_4~~ are each selected from H, alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof; wherein R_5, R_6, R_7 and R_8 are each selected from H and a protecting group; wherein R_{13} is H or a metal salt; and wherein M is an alkali metal salt or transition metal salt; and

(b) performing a macrolactonization of the third compound thereby to form a fourth compound ~~selected from the formulas:~~ of the formula:



and stereoisomers thereof, wherein A is ~~selected from~~  ~~and~~  ; wherein R_1, R_2, and R_3 ~~and R_4~~ are each selected from H, alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof; and wherein R_5, R_7 and R_8 are each selected from H and a protecting group.

2. (Currently Amended) A method according to claim 1 wherein R_1, and R_3 ~~and R_4~~ are each methyl, and R_2 is H or methyl.

3. Cancelled.

4. (Original) A method according to claim 2 wherein R_2 is methyl.

5. (Original) A method according to claim 2 wherein at least one of R_5 - R_8 is TBS.

6. (Original) A method according to claim 2 wherein R_6, R_7 and R_8 are each TBS.

7. (Original) A method according to claim 2 wherein R_5 is PMB.

8. Cancelled.

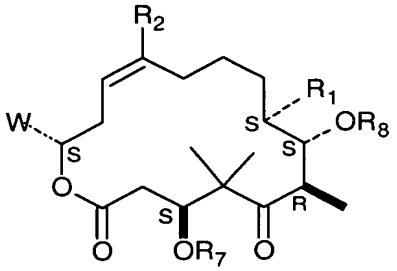
9. (Original) A method according to claim 1 wherein R_5 is selected from PMB, DPS and TBS; wherein R_6 is selected from H, TBS, TMS, TIPS, PMBM and SEM; wherein R_7 is selected from H, TBS, TROC, $-CO(CH_2)_4CH_3$ and $-CO(CH_2)_3CH=CH_2$; and wherein R_8 is selected from H and TBS.

10. – 32. Cancelled.

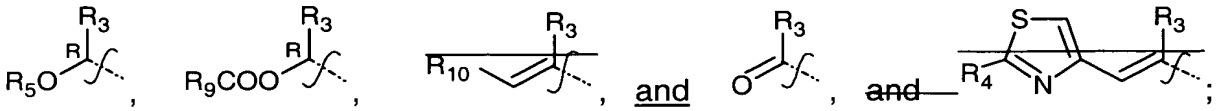
33. (Original) A chemical compound formed according to the method of claim 1.

34. – 68. Cancelled.

69. (Currently Amended) A chemical compound ~~having a formula selected from:~~ of the formula:



and stereoisomers thereof, wherein W is selected from



wherein R_1, R_2, and R_3 ~~and R_4~~ are each selected from H, alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof; wherein R_5, ~~R_6, R_7 and R_8 are each~~ is selected from H and a protecting group; wherein R_7 is selected from H, a protecting group and COR_{11}; wherein R_8 is selected from H, a protecting group and COR_{12}; wherein R_9 is selected from alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof; ~~wherein R_{10} is selected from alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof~~; and wherein R_{11} and R_{12} are each selected from alkyl, alkenyl, alkynyl, aryl, alkyl-aryl, alkyloxy, aryloxy, cycloalkyl, heterocyclo, amino, sulfo, and substitutions thereof.

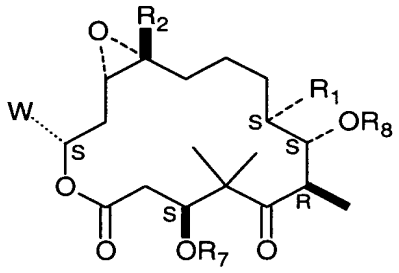
70. (Original) A chemical compound according to claim 69 wherein at least one of R_{11} and R_{12} is selected from $-(CH_2)_xCH_3$ and $-(CH_2)_yCH=CH_2$, where x and y are integers.

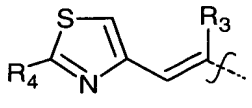
71. (Previously Amended) A chemical compound according to claim 70 wherein x and y are selected from the integers 3 and 4.

72. (Original) A chemical compound according to claim 70 wherein x is 4 and y is 3.

73. and 74. Cancelled.

75. (Withdrawn) A chemical compound having a formula



and stereoisomers thereof, wherein W is  ; wherein R_1, R_2, R_3 and R_4 are each selected from H, alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof; wherein R_7 is selected from H, a protecting group, and COR_{11}; wherein R_8 is selected from H, a protecting group, and COR_{12}, and wherein R_{11} and R_{12} are each selected from alkyl, alkenyl, alkynyl, aryl, alkyl-aryl, alkyloxy, aryloxy, cycloalkyl, heterocyclo, amino, sulfo, and substitutions thereof.

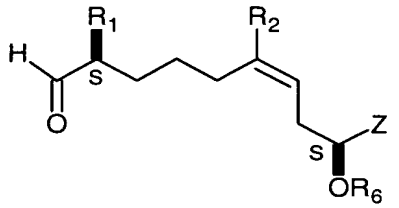
76. (Withdrawn) A chemical compound according to claim 75 wherein at least one of R_{11} and R_{12} is selected from $-(CH_2)_xCH_3$ and $-(CH_2)_yCH=CH_2$, where x and y are integers.

77. (Withdrawn) A chemical compound according to claim 76 wherein x and y are selected from the integers 3 and 4.

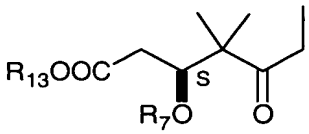
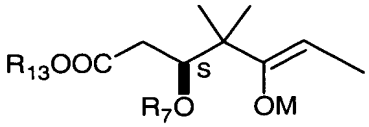
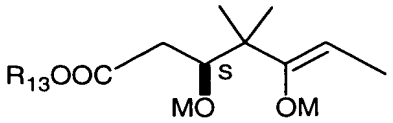
78. (Withdrawn) A chemical compound according to claim 76 wherein x is 4 and y is 3.

79. (New) A method for use in producing epothilones and analogs and derivatives thereof, comprising:

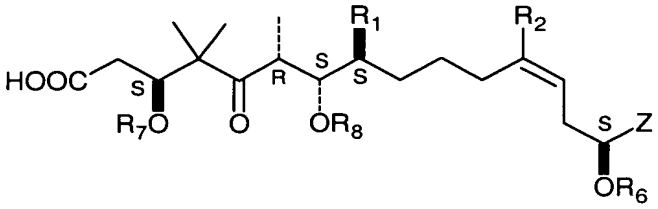
(a) performing an aldol condensation of a first compound of the formula:

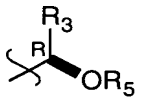
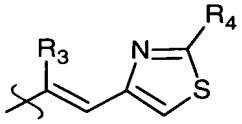


and stereoisomers thereof, with a second compound selected from the formulas:

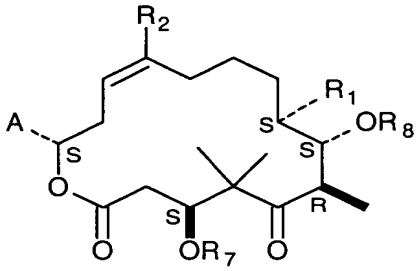


and


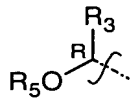
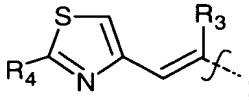
and stereoisomers thereof, thereby to form a third compound of the formula:



and stereoisomers thereof, wherein Z is selected from  and  ; wherein R_1, R_3 and R_4 are each, methyl; wherein R_2 is H; wherein R_5, R_6, R_7 and R_8 are each selected from H and a protecting group; wherein R_{13} is H or a metal salt; and wherein M is an alkali metal salt or transition metal salt; and

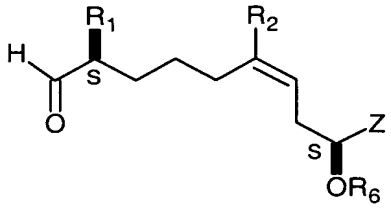
(b) performing a macrolactonization of the third compound thereby to form a fourth compound of the formula:



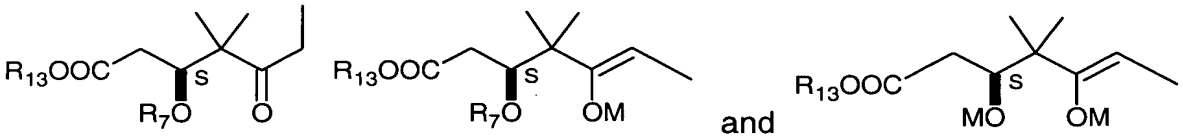
and stereoisomers thereof, wherein A is selected from  and  ; wherein R_1, R_3 and R_4 are each methyl; wherein R_2 is H; and wherein R_5, R_7 and R_8 are each selected from H and a protecting group.

80. (New) A method for use in producing epothilones and analogs and derivatives thereof, comprising:

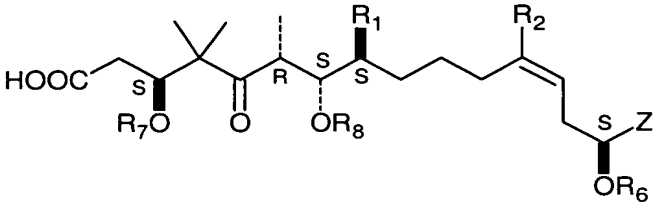
(a) performing an aldol condensation of a first compound of the formula:

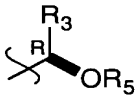
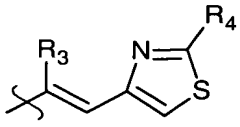


and stereoisomers thereof, with a second compound selected from the formulas:



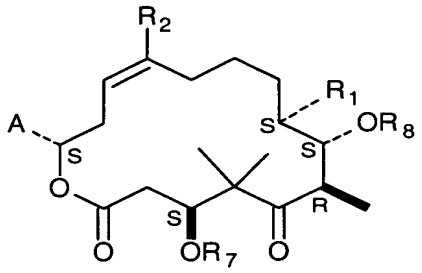
and stereoisomers thereof, thereby to form a third compound of the formula:

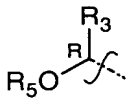
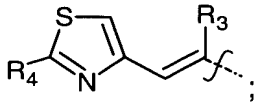


and stereoisomers thereof, wherein Z is selected from  and  ; wherein R_1, R_3 and R_4 are each methyl; wherein R_2 is H or methyl; wherein R_5, R_7 and R_8 are each selected from H and a protecting group; wherein R_6

is SEM; wherein R_{13} is H or a metal salt; and wherein M is an alkali metal salt or transition metal salt; and

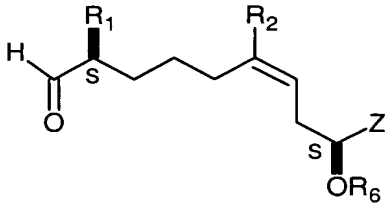
(b) performing a macrolactonization of the third compound thereby to form a fourth compound of the formula:



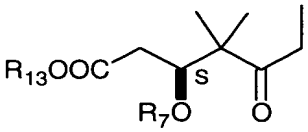
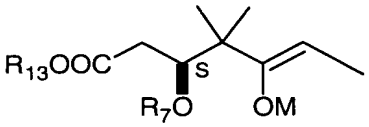
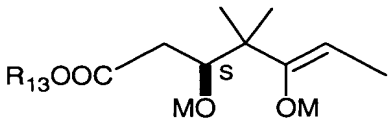
and stereoisomers thereof, wherein A is selected from  and  ; wherein R_1, R_3 and R_4 are each methyl; wherein R_2 is H or methyl; and wherein R_5, R_7 and R_8 are each selected from H and a protecting group.

81. (New) A method for use in producing epothilones and analogs and derivatives thereof, comprising:

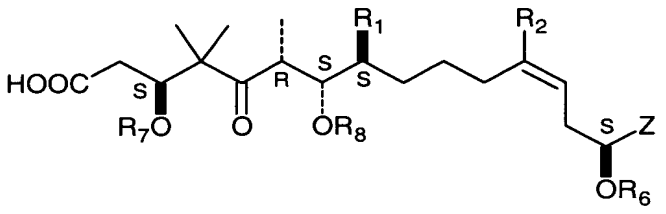
(a) performing an aldol condensation of a first compound of the formula:

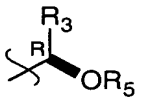
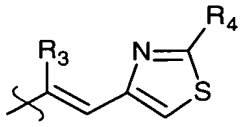


and stereoisomers thereof, with a second compound selected from the formulas:

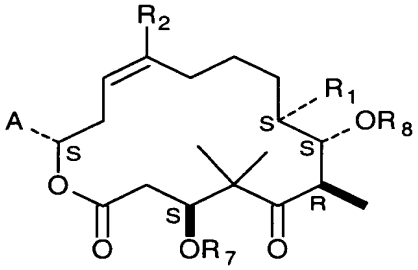
  and 

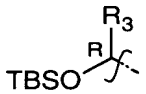
and stereoisomers thereof, thereby to form a third compound of the formula:



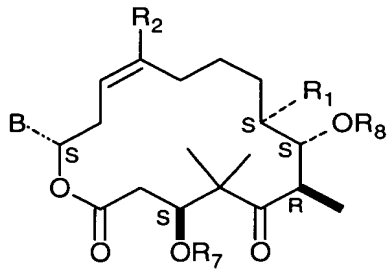
and stereoisomers thereof, wherein Z is selected from  and  ; wherein R_1, R_2, R_3 and R_4 are each selected from H, alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof; wherein R_5, R_6, R_7 and R_8 are each selected from H and a protecting group; wherein R_{13} is H or a metal salt; and wherein M is an alkali metal salt or transition metal salt;

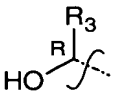
(b) performing a macrolactonization of the third compound thereby to form a fourth compound of the formula:



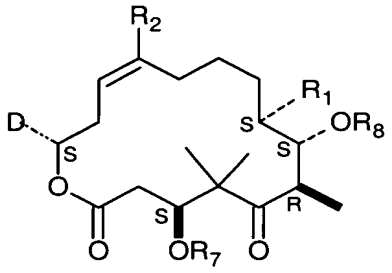
and stereoisomers thereof, wherein A is  ; R_2 is H or methyl; R_3 is methyl; R_7 and R_8 are each selected from TBS, H, and a protecting group; and

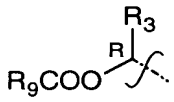
(c) converting said fourth compound to a fifth compound of the formula:



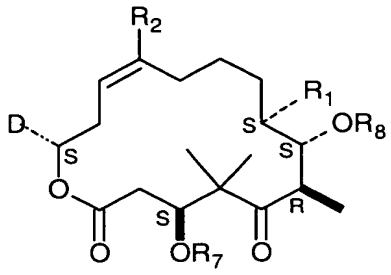
and stereoisomers thereof, wherein B is  ; R_2 is H or methyl; R_3 is methyl; and R_7 and R_8 are each selected from TBS, H, and a protecting group.

82. (New) A method according to claim 81 wherein said fifth compound is converted to a sixth compound of the formula:



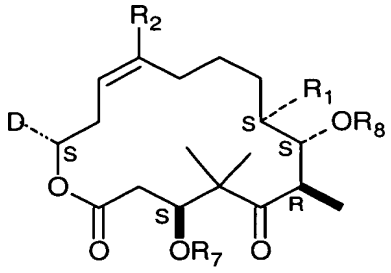
and stereoisomers thereof, wherein D is  ; R_2 is H or methyl; R_3 is methyl; R_7 and R_8 are each selected from TBS, H, and a protecting group, and wherein R_9 is selected from alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof.

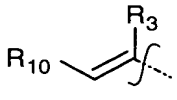
83. (New) A method according to claim 81 wherein said fifth compound is converted to a sixth compound of the formula:



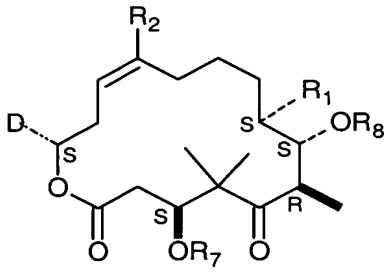
and stereoisomers thereof, wherein D is  ; R_2 is H or methyl; R_3 is methyl; and R_7 and R_8 are each selected from TBS, H, and a protecting group.

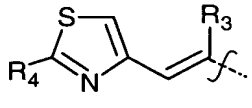
84. (New) A method according to claim 83 wherein said sixth compound is converted to a seventh compound of the formula:



and stereoisomers thereof, wherein D is  ; R_2 is H or methyl; R_3 is methyl; R_7 and R_8 are each selected from TBS, H, and a protecting group; and wherein R_{10} is selected from alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof.

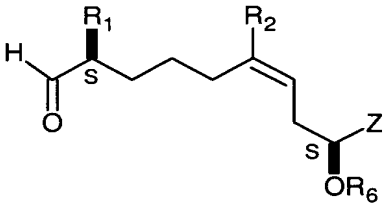
85. (New) A method according to claim 83 wherein said sixth compound is converted to a seventh compound of the formula:



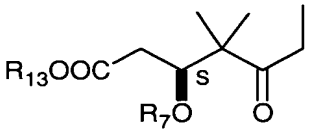
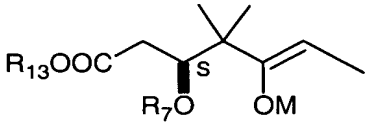
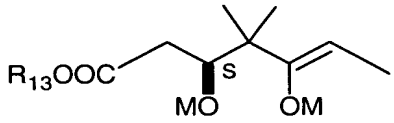
and stereoisomers thereof, wherein D is  ; R_2 is H or methyl; R_3 and R_4 are each methyl; and R_7 and R_8 are each selected from TBS, H, and a protecting group.

86. (New) A method for use in producing epothilones and analogs and derivatives thereof, comprising:

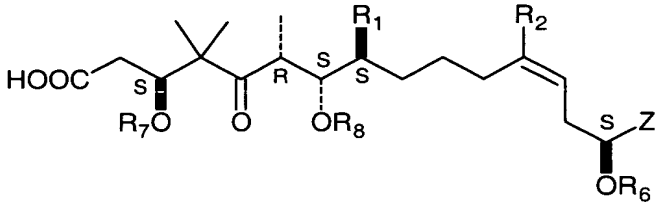
(a) performing an aldol condensation of a first compound of the formula:

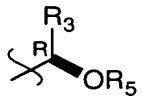
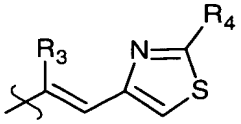


and stereoisomers thereof, with a second compound selected from the formulas:

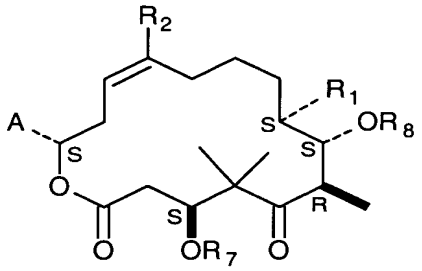


and


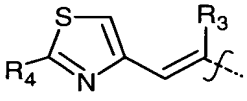
and stereoisomers thereof, thereby to form a third compound of the formula:



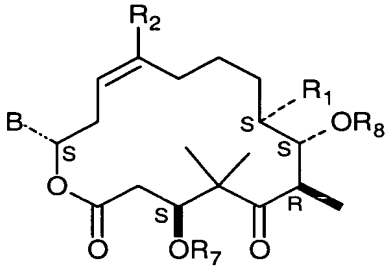
and stereoisomers thereof, wherein Z is selected from  and  ; wherein R_1, R_2, R_3 and R_4 are each selected from H, alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof; wherein R_5, R_6, R_7 and R_8 are each selected from H and a protecting group; wherein R_{13} is H or a metal salt; and wherein M is an alkali metal salt or transition metal salt; and

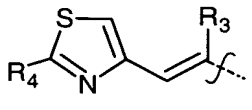
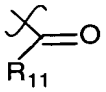
(b) performing a macrolactonization of the third compound thereby to form a fourth compound of the formula:



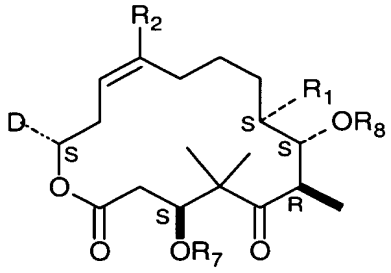
and stereoisomers thereof, wherein A is  ; R_2 is H or methyl; R_3 and R_4 are each methyl; and wherein R_7 and R_8 are each H; and

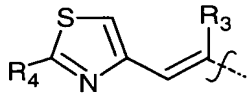
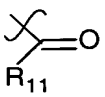
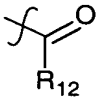
(c) converting said fourth compound to a fifth compound of the formula:



and stereoisomers thereof, wherein B is  ; wherein R_2, R_3, and R_4 are each methyl; R_7 is  ; R_8 is H; and R_{11} is selected from alkyl, alkenyl, alkynyl, aryl, alkyl-aryl, alkyloxy, aryloxy, cycloalkyl, heterocyclo, amino, sulfo, and substitutions thereof.

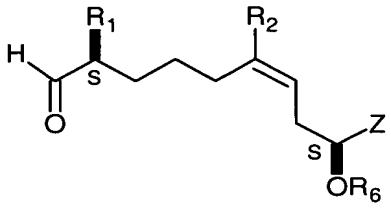
87. (New) A method according to claim 86 wherein said fifth compound is further converted to a sixth compound of the formula:



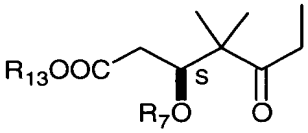
and stereoisomers thereof, wherein D is  , wherein R_2, R_3, and R_4 are each methyl; R_7 is  , R_8 is  , and R_{11} and R_{12} are each selected from alkyl, alkenyl, alkynyl, aryl, alkyl-aryl, alkyloxy, aryloxy, cycloalkyl, heterocyclo, amino, sulfo, and substitutions thereof.

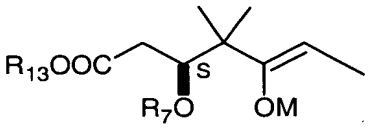
88. (New) A method for use in producing epothilones and analogs and derivatives thereof, comprising:

(a) performing an aldol condensation of a first compound of the formula:

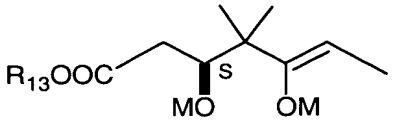


and stereoisomers thereof, with a second compound selected from the formulas:

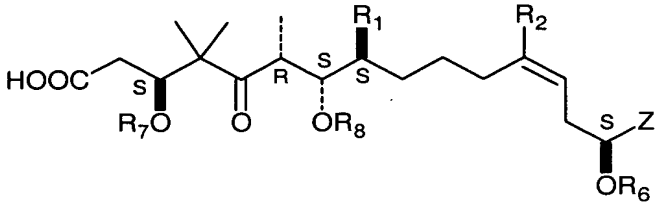


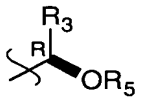


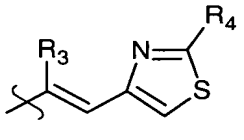
and



and stereoisomers thereof, thereby to form a third compound of the formula:

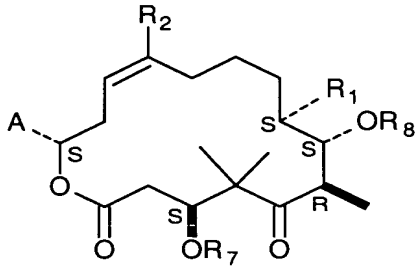


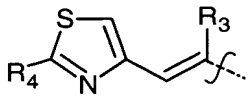
and stereoisomers thereof, wherein Z is selected from 

and 

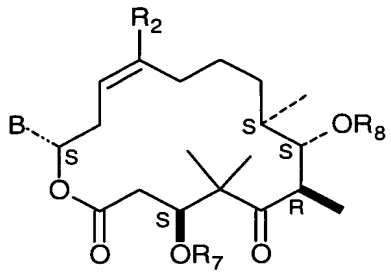
; wherein R_1, R_2, R_3 and R_4 are each selected from H, alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof; wherein R_5, R_6, R_7 and R_8 are each selected from H and a protecting group; wherein R_{13} is H or a metal salt; and wherein M is an alkali metal salt or transition metal salt;

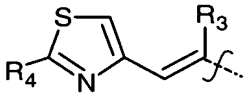
(b) performing a macrolactonization of the third compound thereby to form a fourth compound of the formula:



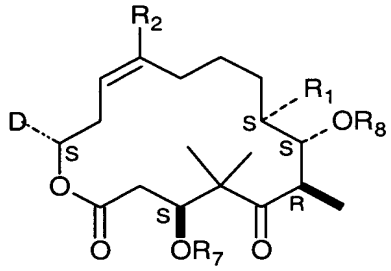
and stereoisomers thereof, wherein A is  ; R_2 is H or methyl; R_3 and R_4 are each methyl; and wherein R_7 and R_8 are each H; and

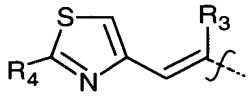
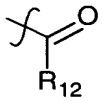
(c) converting said fourth compound to a fifth compound of the formula:



and stereoisomers thereof wherein B is  ; wherein R_2, R_3, and R_4 are each methyl; R_7 is TMS; and R_8 is H.

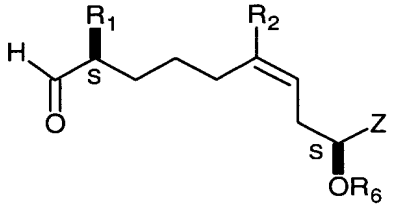
89. (New) A method according to claim 88 wherein said fifth compound is further converted to a sixth compound of the formula:



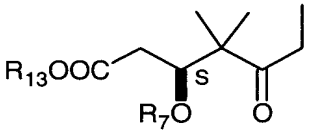
and stereoisomers thereof, wherein D is  ; wherein R_2, R_3, and R_4 are each methyl; R_7 is H; R_8 is  ; and R_{12} is selected from alkyl, alkenyl, alkynyl, aryl, alkyl-aryl, alkyloxy, aryloxy, cycloalkyl, heterocyclo, amino, sulfo, and substitutions thereof.

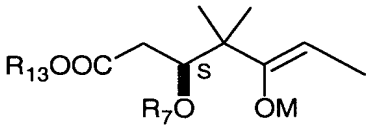
90. (New) A method for use in producing epothilones and analogs and derivatives thereof, comprising:

(a) performing an aldol condensation of a first compound of the formula:

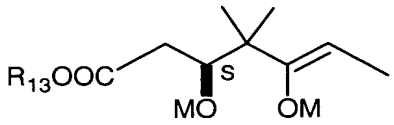


and stereoisomers thereof, with a second compound selected from the formulas:

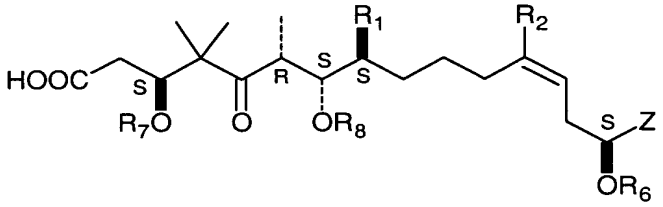




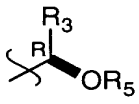
and



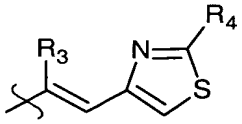
and stereoisomers thereof, thereby to form a third compound of the formula:



and stereoisomers thereof, wherein Z is selected from

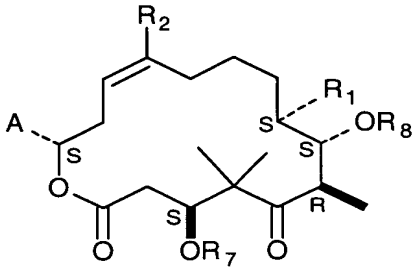


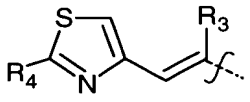
and



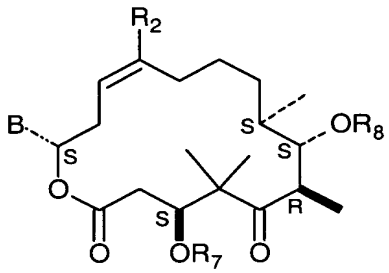
; wherein R_1, R_2, R_3 and R_4 are each selected from H, alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof; wherein R_5, R_6, R_7 and R_8 are each selected from H and a protecting group; wherein R_{13} is H or a metal salt; and wherein M is an alkali metal salt or transition metal salt; and

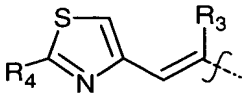
(b) performing a macrolactonization of the third compound thereby to form a fourth compound of the formula:



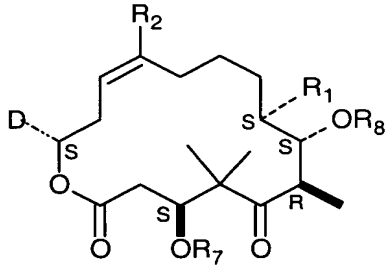
and stereoisomers thereof, wherein A is  ; R_2 is H or methyl; R_3 and R_4 are each methyl; and wherein R_7 is TBS and R_8 is TROC.

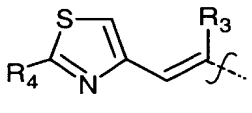
91. (New) A method according to claim 90 wherein said fourth compound is further converted to a fifth compound of the formula:



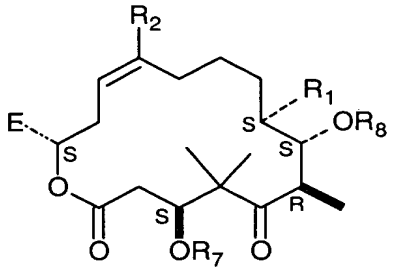
and stereoisomers thereof wherein B is  , R_7 is TBS and R_8 is H.

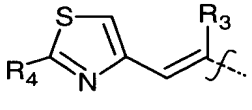
92. (New) A method according to claim 91 wherein said fifth compound is further converted to a sixth compound of the formula:



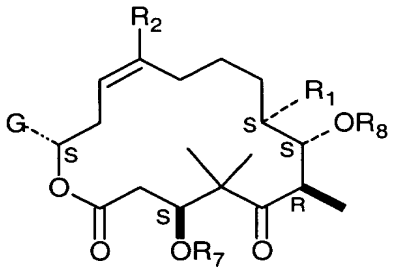
and stereoisomers thereof, wherein D is  ; R_7 is TBS; R_8 is COR_{12}; and R_{12} is selected from alkyl, alkenyl, alkynyl, aryl, alkyl-aryl, alkyloxy, aryloxy, cycloalkyl, heterocyclo, amino, sulfo, and substitutions thereof.

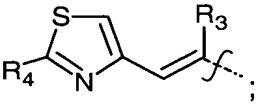
93. (New) A method according to claim 92 wherein said sixth compound is further converted to a seventh compound of the formula:



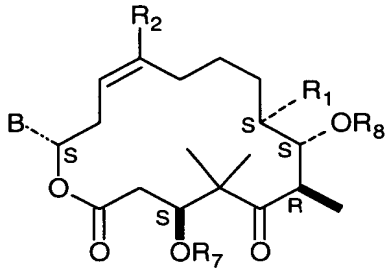
and stereoisomers thereof, wherein E is  ; R_7 is H; R_8 is COR_{12}; and R_{12} is selected from alkyl, alkenyl, alkynyl, aryl, alkyl-aryl, alkyloxy, aryloxy, cycloalkyl, heterocyclo, amino, sulfo, and substitutions thereof.

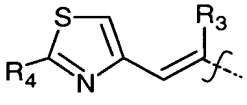
94. (New) A method according to claim 93 wherein said seventh compound is further converted to an eighth compound of the formula:



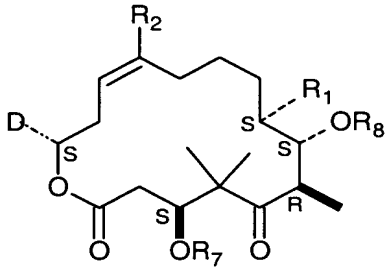
and stereoisomers thereof, wherein G is  ; R_7 is COR_{11}; R_8 is COR_{12}; and R_{11} and R_{12} are each selected from alkyl, alkenyl, alkynyl, aryl, alkyl-aryl, alkyloxy, aryloxy, cycloalkyl, heterocyclo, amino, sulfo, and substitutions thereof.

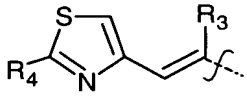
95. (New) A method according to claim 90 wherein said fourth compound is further converted to a fifth compound of the formula:



and stereoisomers thereof wherein B is  ; R_7 is H; and R_8 is TROC.

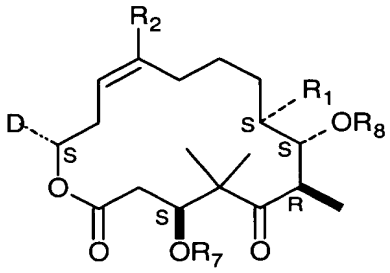
96. (New) A method according to claim 95 wherein said fifth compound is further converted to a sixth compound of the formula:

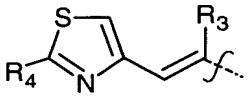


and stereoisomers thereof wherein D is  and R_7 and R_8 are each H.

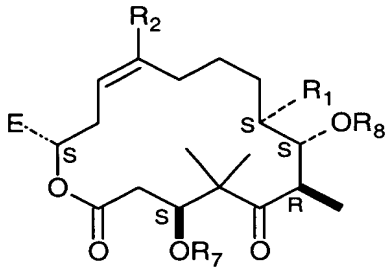
97. (New) A method according to claim 96 wherein said sixth compound is further converted to Epothilone B.

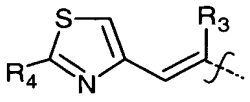
98. (New) A method according to claim 95 wherein said fifth compound is further converted to a sixth compound of the formula:



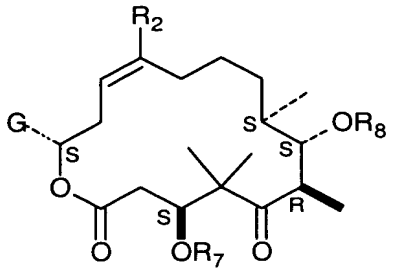
and stereoisomers thereof, wherein D is  ; R_7 is COR_{11}; R_8 is TROC; and R_{11} is selected from alkyl, alkenyl, alkynyl, aryl, alkyl-aryl, alkyloxy, aryloxy, cycloalkyl, heterocyclo, amino, sulfo, and substitutions thereof.

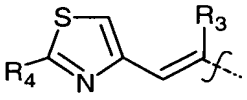
99. (New) A method according to claim 98 wherein said sixth compound is further converted to a seventh compound of the formula:



and stereoisomers thereof, wherein E is  ; R_7 is COR_{11}; R_8 is H; and R_{11} is selected from alkyl, alkenyl, alkynyl, aryl, alkyl-aryl, alkyloxy, aryloxy, cycloalkyl, heterocyclo, amino, sulfo, and substitutions thereof.

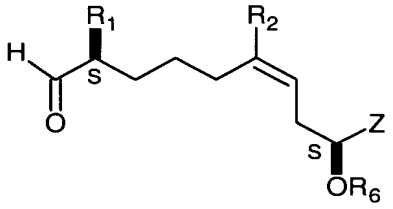
100. (New) A method according to claim 99 wherein said seventh compound is further converted to an eighth compound of the formula:



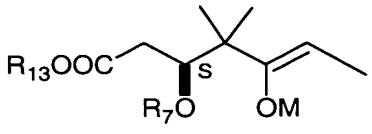
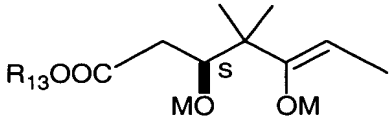
and stereoisomers thereof, wherein G is  ; R_7 is COR_{11}; R_8 is COR_{12}; and R_{11} and R_{12} are each selected from alkyl, alkenyl, alkynyl, aryl, alkyl-aryl, alkyloxy, aryloxy, cycloalkyl, heterocyclo, amino, sulfo, and substitutions thereof.

101. (New) A method for use in producing epothilones and analogs and derivatives thereof, comprising:

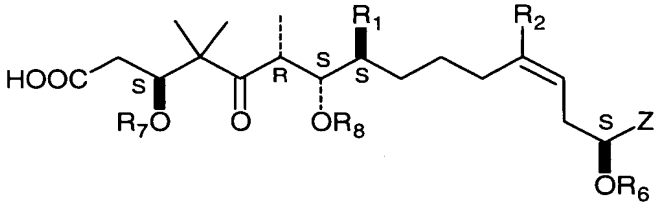
(a) performing an aldol condensation of a first compound of the formula:

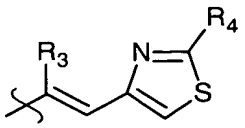


and stereoisomers thereof, with a second compound selected from the formulas:

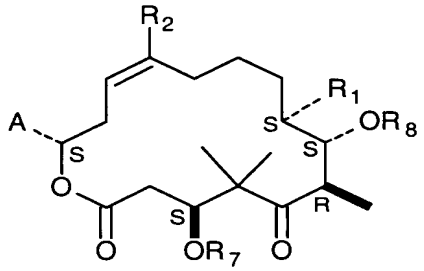
 and 

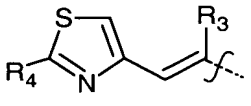
and stereoisomers thereof, thereby to form a third compound of the formula:



and stereoisomers thereof, wherein Z is  ; wherein R_1, R_2, R_3 and R_4 are each selected from H, alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof; wherein R_6, R_7 and R_8 are each selected from H and a protecting group; wherein R_{13} is H or a metal salt; and wherein M is an alkali metal salt or transition metal salt; and

(b) performing a macrolactonization of the third compound thereby to form a fourth compound of the formula:



and stereoisomers thereof, wherein A is  ; wherein R_1, R_2, R_3 and R_4 are each selected from H, alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof; and wherein R_7 and R_8 are each selected from H and a protecting group.

102. (New) A method according to claim 101 wherein R_1, R_3 and R_4 are each methyl, and R_2 is H or methyl.

103. (New) A method according to claim 102 wherein R_2 is methyl.

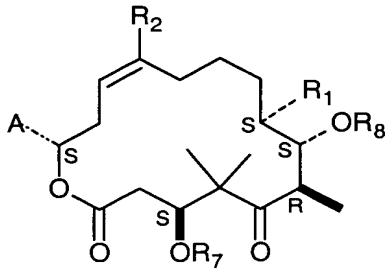
104. (New) A method according to claim 102 wherein at least one of R_6 - R_8 is TBS.

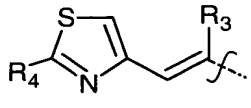
105. (New) A method according to claim 102 wherein R_6, R_7 and R_8 are each TBS.

106. (New) A method according to claim 101 wherein R_6 is selected from H, TBS, TMS, TIPS, PMBM and SEM; wherein R_7 is selected from H, TBS, TROC,

-$CO(CH_2)_4CH_3$ and -$CO(CH_2)_3CH{=}CH_2$; and wherein R_8 is selected from H and TBS.

107. (New) A method according to claim 101 wherein said fourth compound is of the formula:



and stereoisomers thereof, wherein A is  ; R_2 is H or methyl; R_7 is H or TBS; and R_8 is H, TBS, or TROC.

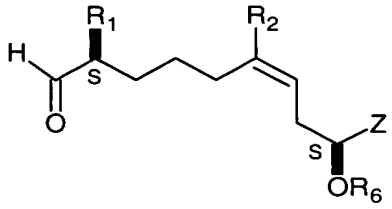
108. (New) A method according to claim 107 wherein said fourth compound is further converted to Epothilone B.

109. (New) A method according to claim 107 wherein R_7 and R_8 each are H.

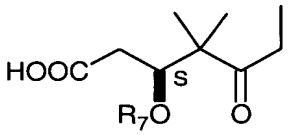
110. (New) A chemical compound formed according to the method of claim 101.

111. (New) A method for use in producing epothilones and analogs and derivatives thereof, comprising:

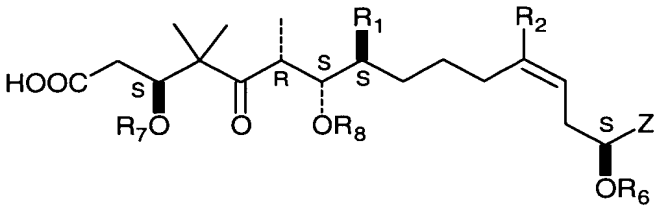
(a) performing an aldol condensation of a first compound of the formula:

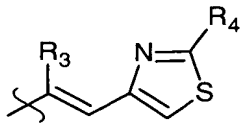


and stereoisomers thereof, with a second compound selected from the formulas:



and stereoisomers thereof, thereby to form a third compound of the formula:



and stereoisomers thereof, wherein Z is  ;

wherein

R_1, R_2, R_3 and R_4 are each selected from H, alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof;

R_6, R_7 and R_8 are each selected from H and a protecting group;

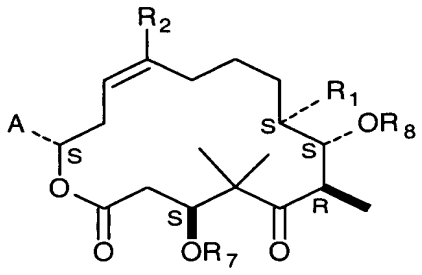
provided that

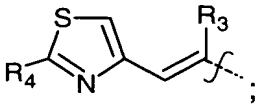
R_1 – R_4 of the first compound are not each methyl when R_6 is the protecting group TBS; and

provided that

R_1 - R_4 of the third compound are not each methyl when R_7 is TBS, and R_6 and R_8 are hydrogen or the protecting group TBS;

(b) performing a macrolactonization of the third compound thereby to form a fourth compound of the formula:



and stereoisomers thereof, wherein A is  ;

wherein

R_1, R_2, R_3 and R_4 are each selected from H, alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof;

R_7 and R_8 are each selected from H and a protecting group;

provided that

R_1 – R_4 of the fourth compound are not each methyl when R_7 and R_8 are either H or the protecting group TBS.

112. (New) A method according to claim 111 wherein R_1, R_3 and R_4 are each methyl, and R_2 is H or methyl.

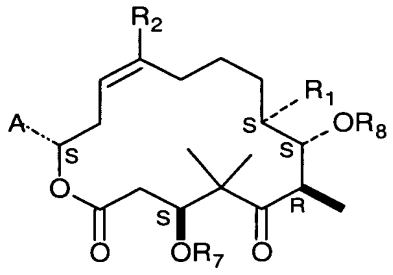
113. (New) A method according to claim 112 wherein R_2 is methyl.

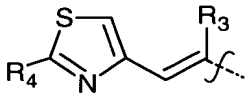
114. (New) A method according to claim 112 wherein at least one of R_6 - R_8 is TBS.

115. (New) A method according to claim 112 wherein R_6, R_7 and R_8 are each TBS.

116. (New) A method according to claim 111 wherein R_6 is selected from H, TBS, TMS, TIPS, PMBM and SEM; wherein R_7 is selected from H, TBS, TROC, -$CO(CH_2)_4CH_3$ and -$CO(CH_2)_3CH{=}CH_2$; and wherein R_8 is selected from H and TBS.

117. (New) A method according to claim 111 wherein said fourth compound is of the formula:



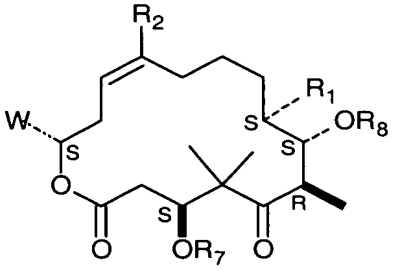
and stereoisomers thereof, wherein A is  ; R_2 is H or methyl; R_7 is H or TBS; and R_8 is H, TBS, or TROC.

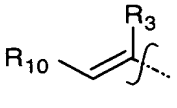
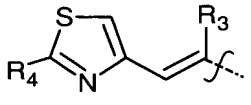
118. (New) A method according to claim 117 wherein said fourth compound is further converted to Epothilone B.

119. (New) A method according to claim 117 wherein R_7 and R_8 each are H.

120. (New) A chemical compound formed according to the method of claim 111.

121. (New) A chemical compound of the formula:



and stereoisomers thereof, wherein W is selected from  , and  ; and wherein

R_1, R_2, R_3 and R_4 are each selected from H, alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof;

R_7 is COR_{11};

R_8 is selected from H, a protecting group and COR_{12};

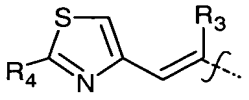
R_{11} and R_{12} are each selected from alkyl, alkenyl, alkynyl, aryl, alkyl-aryl, alkyloxy, aryloxy, cycloalkyl, heterocyclo, amino, sulfo, and substitutions thereof;

122. (New) A chemical compound according to claim 121 wherein at least one of R_{11} and R_{12} is selected from $-(CH_2)_xCH_3$ and $-(CH_2)_yCH=CH_2$, where x and y are integers.

123. (New) A chemical compound according to claim 122 wherein x and y are selected from the integers 3 and 4.

124. (New) A chemical compound according to claim 122 wherein x is 4 and y is 3.

125. (New) A chemical compound according to claim 121 wherein W is



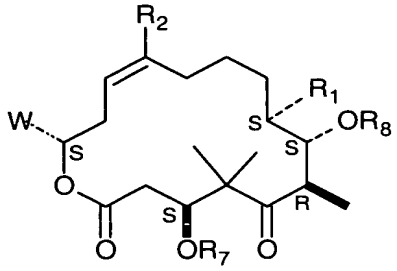
, and wherein

R_2 is H or methyl,

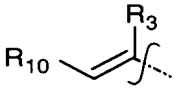
R_8 is H or COR_{12},

and wherein R_{11} and R_{12} are each selected from $-(CH_2)_4CH_3$ and-$(CH_2)_3CH=CH_2$.

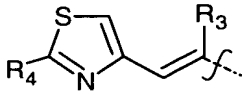
126. (New) A chemical compound of the formula:



and stereoisomers thereof, wherein W is selected from



, and



; and wherein

R_1, R_2, R_3 and R_4 are each selected from H, alkyl, alkenyl, alkynyl, aryl, cycloalkyl, heterocyclo, and substitutions thereof;

R_7 is selected from H, a protecting group and COR_{11};

R_8 is COR_{12};

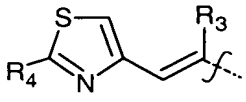
R_{11} and R_{12} are each selected from alkyl, alkenyl, alkynyl, aryl, alkyl-aryl, alkyloxy, aryloxy, cycloalkyl, heterocyclo, amino, sulfo, and substitutions thereof;

127. (New) A chemical compound according to claim 126 wherein at least one of R_{11} and R_{12} is selected from $-(CH_2)_xCH_3$ and $-(CH_2)_yCH=CH_2$, where x and y are integers.

128. (New) A chemical compound according to claim 127 wherein x and y are selected from the integers 3 and 4.

129. (New) A chemical compound according to claim 127 wherein x is 4 and y is 3.

130. (New) A chemical compound according to claim 126 wherein W is



, and wherein

R_2 is H or methyl;

R_7 is H or COR_{11}; and

R_{11} and R_{12} are each selected from $-(CH_2)_4CH_3$ and-$(CH_2)_3CH=CH_2$.